

ROAD THUNDER®

MTX®
AUDIO



RT602
2 Channel Class-AB Power Amplifier

180W RMS

Designed by MTX in Phoenix, USA

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Owner's Manual - RT602

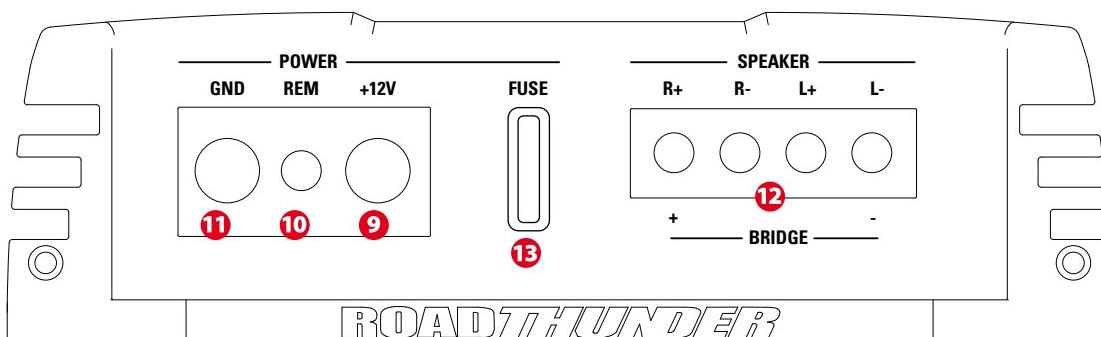
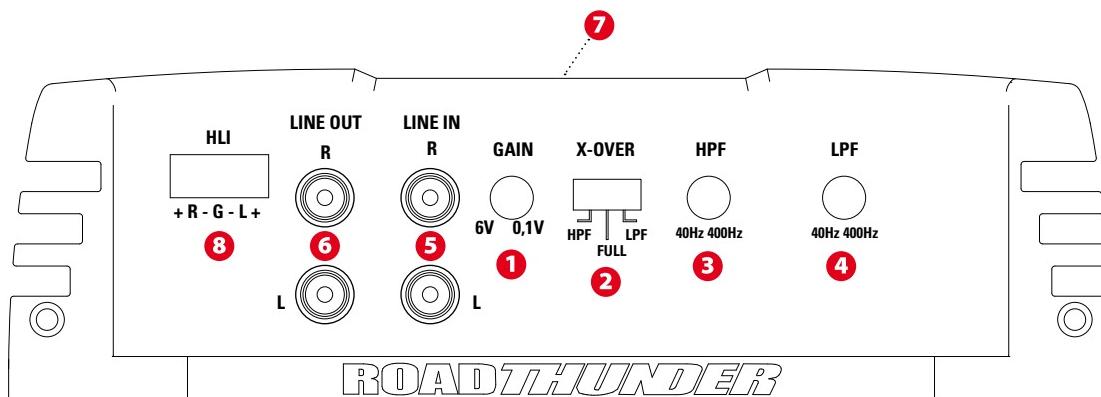
Introduction

Thank you for purchasing an MTX Audio Hi-Performance amplifier. Proper installation matched with MTX speakers and subwoofers provide superior sound and performance for endless hours of waking the neighbors, slammin' your friends or flat out stomping wanna-be players. Congrats and enjoy the ultimate audio experience with MTX !

Specifications :

- 2-Channel Class-AB Amplifier
- CEA2006 certified Power Output :
 - 90 watts RMS x 2-channel at 2 ohm and THD+N ≤1%
 - 60 watts RMS x 2-channel at 4 ohm and THD+N ≤1%
 - 180 watts RMS x 1-channel at 4 ohm and THD+N ≤1%
- Crossover :
 - High pass 12dB/oct variable from 40Hz to 400Hz
 - Low pass 12dB/oct variable from 40Hz to 400Hz
- Signal-to-Noise Ratio (1 watt) : > 80dB
- THD+Noise (Distortion) (1 watt) : ≤ 1%
- Frequency Response ($\pm 1\text{dB}$) : 20Hz-30000Hz
- Maximum Input Signal : 6V
- Maximum Sensitivity : 100mV
- Dimensions : 310mm x 180mm x 55mm
- High level inputs

Control Panel





Control Panel :

- ① Gain Control (GAIN) : The gain control matches the input sensitivity of the amplifier to the source unit being used. The operating range varies from 100mV to 6V.
Adjusting the gain
 1. Turn the gain control on the amplifier all the way down (counter clockwise).
 2. Turn up the volume control on the source unit to approximately 3/4 of maximum.
 3. Adjust the gain control on the amplifier until audible distortion occurs.
 4. Adjust the gain control down until audible distortion disappears.
 5. The amplifier is now calibrated to the output of the source unit.
- ② Low-Pass High-Pass X-Over Switch (X-OVER) :
In "LPF" position, the active low pass (LP) x-over is turned on
In "HPF" position, the active high pass (HP) x-over is turned on
In "FULL" position, the x-over is turned off
- ③ High Pass X-Over Frequency Control (HPF) :
Used to select the desired high-pass (HP) x-over frequency. The frequency is adjustable from 40Hz to 400Hz..
- ④ Low Pass X-Over Frequency Control (LPF) :
Used to select the desired low-pass (LP) x-over frequency. The frequency is adjustable from 40Hz to 400Hz..
- ⑤ RCA Inputs (LOW INPUT) : These RCA inputs are used with source units that have RCA or Line level outputs. (Source units need a minimum level of 100mV output for proper operation of the amplifier).
MTX recommends only high quality twisted pair cables (such as StreetWires) to decrease the possibility of radiated noise entering the system.
- ⑥ RCA outputs - These RCA output jacks are for connecting multiple amplifiers to 1 stereo RCA lead coming from the source unit (daisy chaining).
- ⑦ PowerOn/Protection LED - The LED illuminates red when the amp is switched on. When the amp is in shortcircuit or thermal protection, the LED is blinking.
- ⑧ Speaker level inputs (HLI) :
This input will allow the amplifier to operate from source units with speaker-level outputs. Output speaker leads from the source unit should be tied directly to the wire harness provided with the amplifier.
Note : When speaker level inputs are used, a remote turn on wire must be used to switch the amplifier on and off.
- ⑨ (+12V) Power Terminal : This is the main power input for the amplifier and must be connected directly to the positive terminal of the vehicle's battery for proper operation. Use caution when installing (+12) power cable in the vehicle. Avoid running this cable parallel with RCA cables, antennas, or other sensitive equipment due to massive currents that can induce noise into the audio system. It is also very important to have a tight, secure connection for maximum performance. MTX recommends using 10mm² power wire with the MTX RT602 amplifier.
- ⑩ Remote Terminal (REM) : The amplifier can be turned on by applying 12 volts to this terminal. Typically this voltage is supplied by a wire from the source unit marked "remote" or "power antenna".
- ⑪ Ground Terminal (GND) : A proper ground is required for your amplifier to operate at peak performance. A short ground cable the same diameter as the power cable should be used to attach the ground terminal directly to the chassis of the vehicle. Always remove paint, dirt or debris to expose bare metal where the ground will be attached.
- ⑫ Speaker Terminals (SPEAKER) : Connect speakers to these terminals. Observe speaker polarity throughout the system. Improper phase can result in loss of bass response and/or poor overall sound quality.
Bridge Mode : When bridging the amplifier, use the right positive terminal and the left negative terminal only.
Warning : do not bridge the amplifier with an impedance lower than 4 ohm.
- ⑬ Fuse (FUSE) : When fuse blows, replace them with the same value. Never use a higher rated fuse !



Installation & Mounting

MTX recommends your new Thunder amplifier be installed by an Authorized MTX retailer. Any deviation from specified installation instructions can cause serious damage to the amplifier, speakers and/or vehicles electrical system. Damage caused from improper installation is NOT covered under warranty. Please verify all connections prior to system turn on !

1. Disconnect the vehicle's negative battery cable.
2. Determine the mounting place for your MTX amplifier. Keep in mind there should be sufficient air flow for proper cooling. Mark the mounting holes from the amplifier to be drilled. Before drilling make sure all vehicle wires, gas lines, brake lines and gas tank are clear and will not interfere with installation. Drill the desired holes and mount the MTX amplifier.
3. Install a positive (+) power cable from the vehicle's battery through the firewall using a grommet or firewall bushing to avoid cable damage from sharp edges of the firewall. Run the cable through the interior of the vehicle and connect it to the amplifier's (+12V) terminal. Do Not connect to the battery at this time.
Note : Use only proper gauge wire for both positive and negative connections.
4. Install a circuit breaker or fuse within 20cm of the battery. This effectively lowers the risk of severe damage to you or your vehicle in case of a short circuit or accident. Make sure the circuitbreaker is switched off or the fuse is taken out of the fuse holder untill all connections are made. Now connect your positive power cable to the positive battery terminal of the battery.
5. Grounding - Locate a proper ground point on the vehicle's chassis and remove all paint, dirt or debris to reveal a bare metal surface. Attach the ground wire to that contact point. Connect the opposite end of the ground wire to the (GND) terminal on the MTX amplifier.
6. Connect a Remote Turn-on wire from the source unit to the MTX amplifier's (REM) terminal. If the source unit does not have a dedicated Remote Turn-on lead, you may connect to the source unit's Power Antenna lead.
7. Connecting signal cables to the amplifier : There are two ways to supply the signal to your MTX amp.
 - To get maximum performance, we suggest connecting a high quality RCA to the corresponding outputs at the source unit and inputs of the amplifier.
 - If a source unit is being used without RCA outputs, use the included high-level amplifier's speaker terminals using the right gauge speaker wire.
8. Connect your speakers to your MTX amplifier's speaker terminals using the right gauge speaker wire. Bridged channels can drive a 4 ohm minimum load for max power.
9. Double check all previous installation steps, in particular, wiring and component connections. Once verified, reconnect the vehicle's negative battery cable, turn the circuit breaker on or place the fuse in the fuse holder.

Note : Gain Levels on the amplifier should be turned all the way down (counter clockwise) before proceeding with adjustments.



Troubleshooting

Problem	Cause	Solution
No LED indication	No +12V at remote connection No +12V at Power connection Insufficient ground connection Blown power fuse	Supply +12V to terminal Supply +12V to terminal Verify ground connection Replace fuse
Power LED on, no output	Volume on source unit off Speaker connections not made Gain control on amplifier off Signal processing units off All speakers blown	Increase volume on source unit Make speaker connections Turn up gain Apply power to signal processor Replace speakers
Output distorted	Head unit volume set too high Amplifier gain set too high	Lower head unit volume Lower amplifier gain
Balance reversed	Speakers wired L + R reversed RCA inputs reversed	Wire speakers with correct orientation Reverse RCA input
Bass is weak	Speakers wired out of phase Not using MTX woofers	Wire speakers with correct phase Buy MTX woofers
Blowing fuses	Excessive output levels Amplifier defective	Lower the volume Return for service



MTX is a proud member of Mitek Corp high quality consumer audio product lines.



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